

Snack Time @ UBC Child Care Centre:

Assessing with Dietary and Ecological Methods



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Background

- Where?
 - Acadia
 - One of the 25 UBC Child Care locations on Campus
- Who (stakeholders)?
 - Children (25 x 3-5 year olds)
 - 5 staff members
 - parents



Background

- Why?

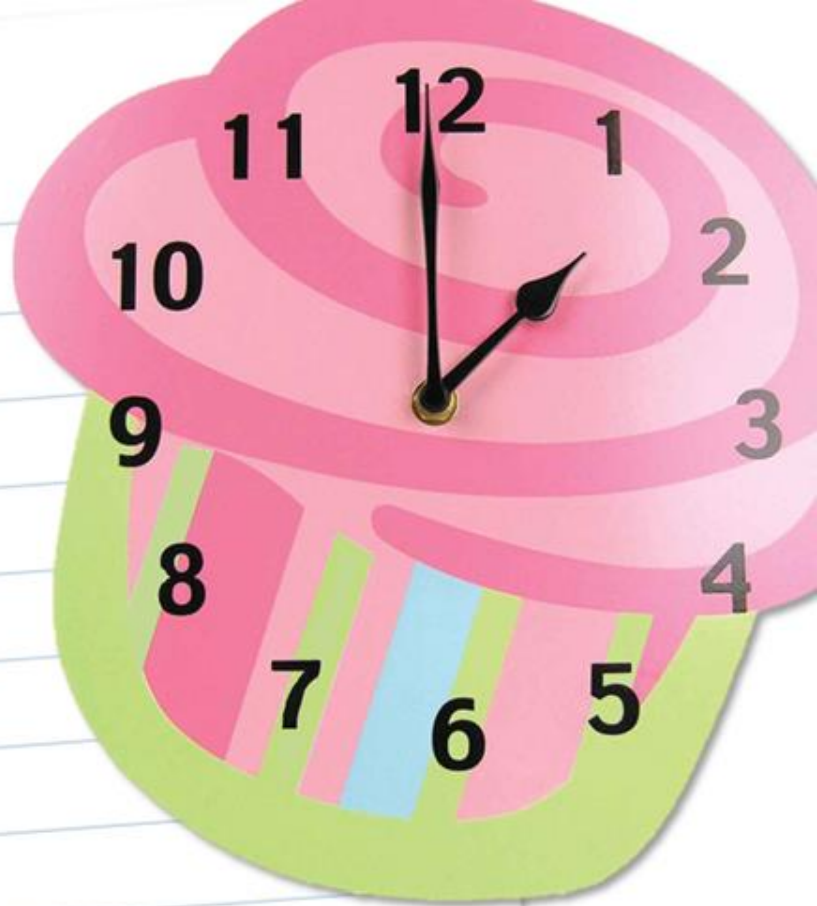
- Interest in the nutrition profile of snacks served to daycare children

- Study have shown children consume 2/3 of energy intake at childcare facilities (Martyniuk et al., 2016)



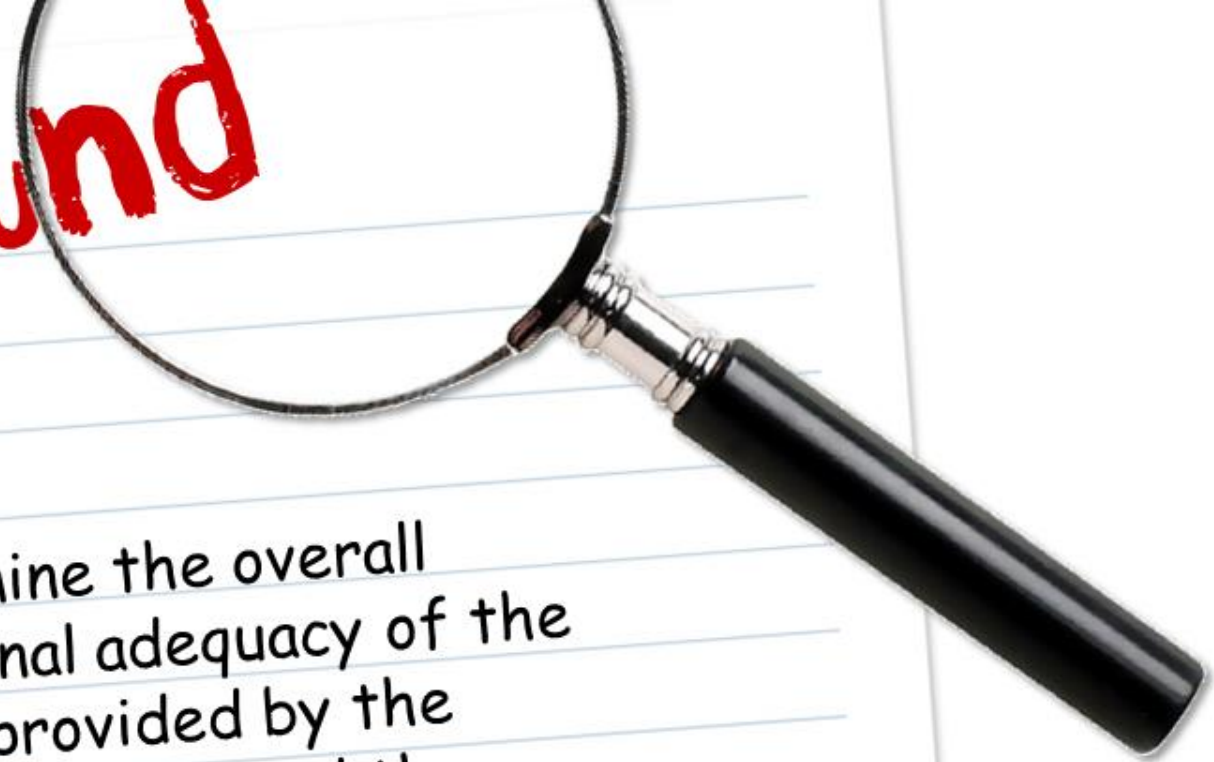
Background

- How?
 - Direct Observation
 - Staff Questionnaire
- When?
 - Two separate observations
 - Afternoon snack period



Background

- What?
 - Determine the overall nutritional adequacy of the snacks provided by the daycare centre and the impact of daycare staff knowledge and behaviors



Nutrition Care Process

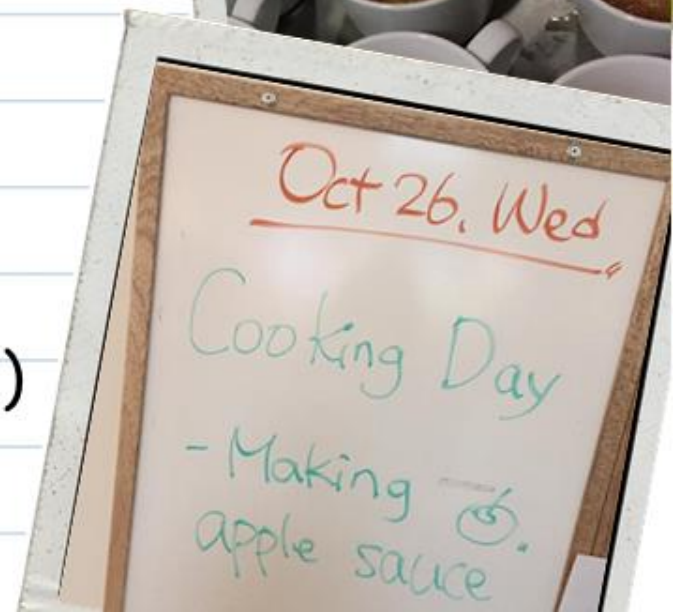


Assessment



Dietary (flex-day)

- Apple Sauce with home-brought apples
- Goldfish crackers + Carrot Sticks
 - Preference for crackers
- Premium Plus Crackers (salted)
 - Distributed by multiple staff





Dietary (set menu day)

- Quaker Rice Cake
 - 1-2 pieces
- Two pieces of:
 - Armstrong cheddar cheese
 - Apple
 - Orange
 - Banana





Dietary

Children's Behaviour (observation)

- Overall, children enjoyed their snacks
 - Very little leftover
 - Smiling and eagerly eating
 - Ask staff about ingredients



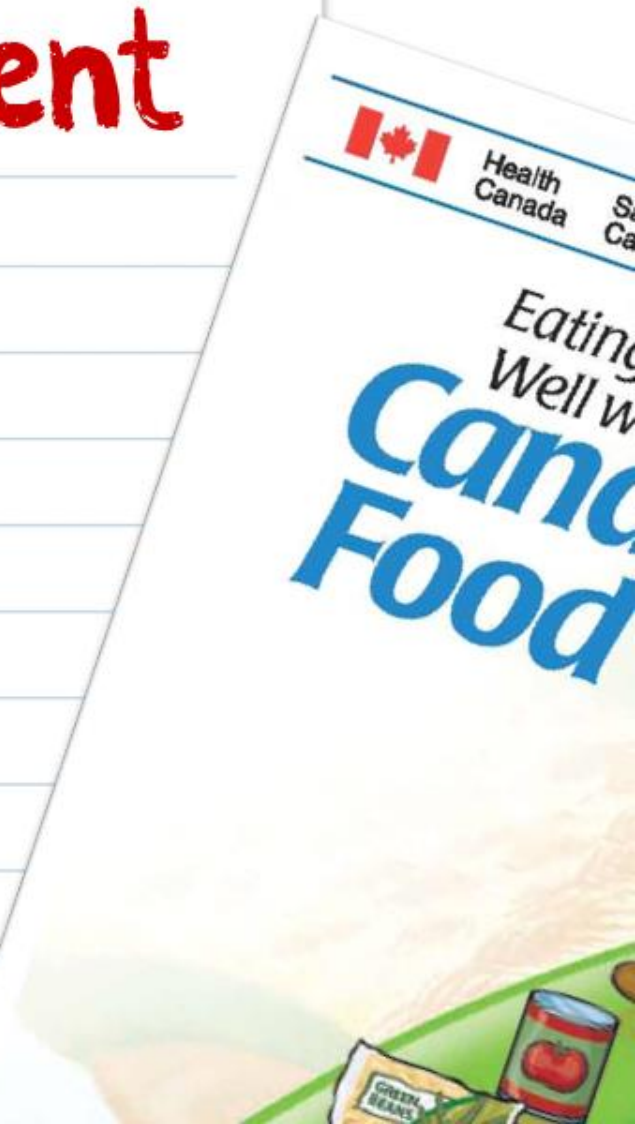
Nutrition Care Process



Assessment

Ecological

- Staff nutritional knowledge
 - Postsecondary course(s)
(i.e., during ECE training,
undergraduate nutrition course)
- 1 of out 5 staff confirm to
having a Food Safe Certificate





Ecological cont...

- Majority of the parents of the children are either students, staff, or faculty members of UBC
 - Children are healthy and not malnourished





Ecological cont...

- Staff prepare snack daily and shop for snack items
 - Influenced by their ethnic background and nutritional knowledge
 - Avoid high sugar/fats
 - Budget also a factor



Nutrition Care Process



Diagnosis



Children are:

- from relatively affluent, educated families
- assumed to have adequate safe and sufficient food
- generally healthy
- completely reliant on staff to provide snacks
 - therefore, staff knowledge and behaviour is very important
 - i.e., observed inconsistencies in staff behaviour



PES Statement:

Sub-optimal child nutrition related to daycare staff nutrition knowledge and behavior as evidenced by the selection of snacks with low nutritional value, lack of portion control, and order in which snacks were served.

Nutrition Care Process



Intervention

Intervention 1: Improved snack selection

- Choose low sodium and whole grains when possible
 - Ex: Unsalted Premium Plus crackers





- **Intervention 2: Altering staff behavior**

- Snack portioning
- Present healthy snacks first
 - Serve vegetables before processed foods





Expected outcomes:

- Improved nutrient status
- Altered food preferences

Significance:

- Nutrient status is positively correlated with improved physical and cognitive growth (Kurpad, Edward & Aeberli, 2013).





M



E

Monitoring and Evaluation

Measurements: Direct observations
and questionnaire

Indicators: Observe changes in...

- Snack selection
- Snack portioning
- Snack order/presentation
- Staff responses:
 - Low sodium?
 - Whole grain?
 - Equal snack consumption?

Summary

Based upon our assessment, whilst there are no nutrient deficiencies in the children attending the Acadia, there are areas in which the snack program could be improved to ensure better nutrient statuses in children.





Strengths

- direct observation of snack periods
 - eliminates phantom foods/missing foods
 - discerns discrepancies between staff questionnaire responses and actual behaviour
 - increases validity





Limitations

- due to time constraints, we were only able to assess two afternoon snack sessions
 - did not have the necessary tools to accurately assess the total energy and nutrient profile of the snacks served
 - may not be an accurate representation of Acadia's snack program
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CRITICAL QUESTIONS

1. What are other possible assessment methods that can be used to more accurately assess the Acadia's snacks program?
2. Research bias occurs when a "systematic error [is] introduced into sampling or testing by selecting or encouraging one outcome or answer over others" (Panucci & Wilkins, 2010). What are ways of preventing and/or reducing observer bias within the context of observation research of daycare afternoon snacks?



CRITICAL QUESTION #1 Answer

To more accurately determine the nutrient adequacy of the Acadia's snack program, we could use a...

- weighed food record

- exact measurements would allow for us to accurately determine the total energy (kilocalories) and nutrient profile (macronutrient and micronutrient breakdown) of the snacks provided.

- multiple-day food record

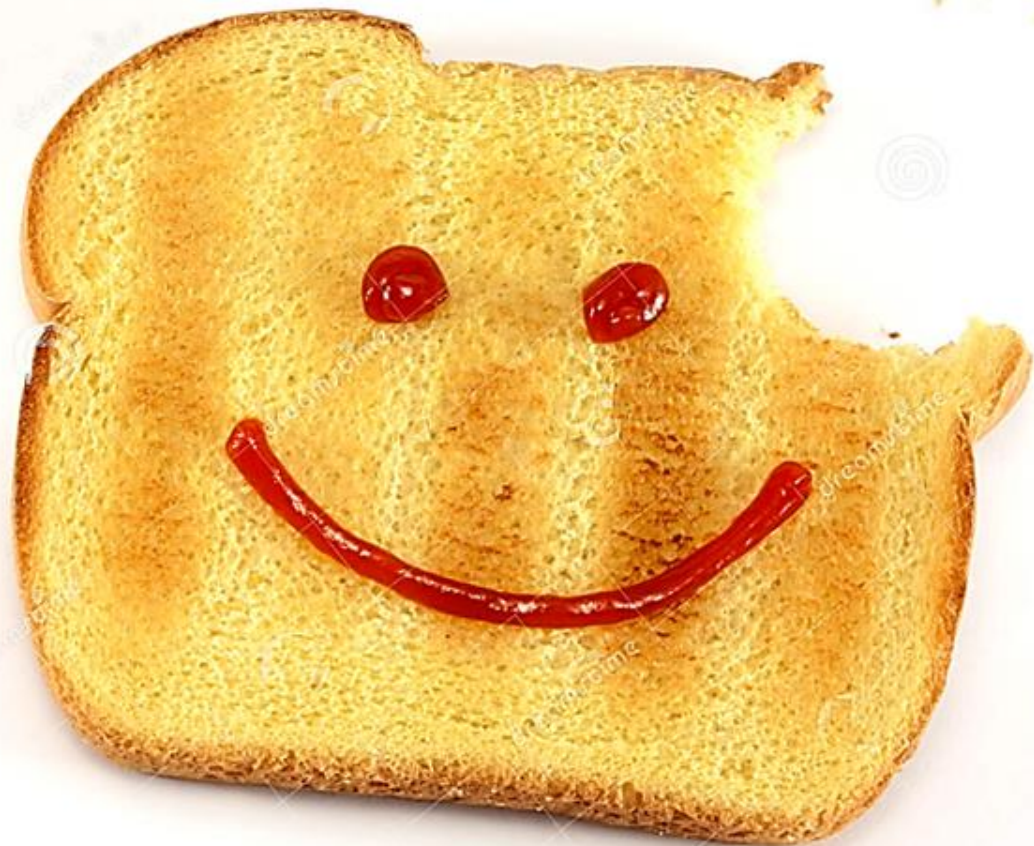
- data would be more representative of usual intake than the data we collected through direct observation of two snack sessions.

CRITICAL QUESTION #2 Answer

Methods to prevent /reduce observer bias...

- Utilizing an impartial third-person to conduct observations
- Wording survey questions in a more neutral way
 - Don't have guiding
 - may prompt staff to respond in a certain way
 - Simply ask to list what they consider when choosing snacks?
 - Possibly Food Frequency Questionnaire

QUESTIONS?



Bibliography

- Kurpad, A. V., Edward, B. S., & Aeberli, I. (2013). Micronutrient supply and health outcomes in children. *Current Opinion in Clinical Nutrition and Metabolic Care*, 16(3), 328-338. doi:10.1097/MCO.0b013e32835e8d0b
- Martyniuk, O. J., Vanderloo, L. M., Irwin, J. D., Burke, S. M., & Tucker, P. (2016). Comparing the nutrition environment and practices of home- and centre-based child-care facilities. *Public Health Nutrition*, 19(4), 575–584. doi:10.1017/S1368980015003535
- Pannucci, C. J., & Wilkins, E. G. (2010). Identifying and Avoiding Bias in Research. *Plastic and Reconstructive Surgery*, 126(2), 619–625. <http://doi.org/10.1097/PRS.0b013e3181de24bc>